

Project Head Start

An Evaluation of the Medical Components in California

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■ *Half of 1,135 children medically examined as a part of Project Head Start in California had one or more conditions that warranted referral to a physician or dentist, and only one-fifth of these were under care. In the judgment of the examining physicians, one-third of the referable medical conditions were described as "major." Follow-up procedures were variable and not very successful.*

Increased local medical society participation in planning the health services for these children is recommended as an especially important step in securing care for the problems that are identified.

PROJECT HEAD START, a major program in the "war against poverty," was launched in February 1965. Initially, this education and child development program planned to enroll 100,000 pre-school children throughout the United States. Because of the tremendous community response to the project and the vigor with which it was administered, the goals were quickly expanded. By April, approximately 2,600 communities and agencies had submitted project applications. Nationally, 561,000 children and 41,000 teachers participated in programs at 13,000 individual centers.⁹ Eighty-six communities in California were granted \$2,545,239 for a program that served over 21,000 children.

Although Project Head Start was primarily an education program for deprived children, much attention was given to the provision of health services. The Bureau of Maternal and Child Health of the California State Department of Public Health decided to seek information about the medical aspects of the proposed program in 1965 during its initial year of operation in two components:

1. A survey by medical students of the health services provided in 28 local Head Start projects in 12 counties representative of all geographic areas of the state.*

2. Cooperation with five counties in the collection of comparable health data on more than 1,000 children in 28 local projects. A special health evaluation form was developed for this purpose. Follow-up procedures were subsequently ascertained.

Survey of Health Services in 12 Counties

A not unexpected finding of this survey, because of the speed with which Head Start was developed, was that the centers visited differed widely in examination procedures and resources used, with only a minimum degree of standardization derived from the use of the health guides and medical examination forms distributed by the Federal Head Start Office.

- Of the 28 centers visited, 12 obtained medical services from physicians who were the personal acquaintances of project staff. Five projects obtained physicians through medical societies; four

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used public health physicians; one obtained a physician from the welfare department; and two sent children to private physicians' offices.

- Eight projects used the local health department for help in planning, and 12 programs used public health nurses directly in the projects.

- Ten projects reported county medical societies were directly involved in their program, and 12 reported participation by dental societies.

- Medical examinations were carried out by pediatricians exclusively in five centers, by general practitioners only in 12 centers, and by combinations in six centers. Time for examinations ranged from five to 30 minutes.

- Medical histories were generally taken by project nurses. In five projects, the history was taken by teachers.

- Nineteen centers employed dentists to provide a thorough examination. Nine centers used nurses or physicians for dental screening.

- Seventeen of the centers performed urinalysis; only 12 determined hemoglobin or hematocrit.

- Psychological and developmental testing varied from tests for every child to tests only for children referred by their teachers. Some testing was done in 24 of 28 programs.

- Vision screening was done at all centers, hearing screening at 22 and tuberculin testing at 21.

- All centers checked immunization status. Immunizations were given in 14 programs by health department personnel, in six at clinics, in five by private physicians, at one by a public health nurse and in one by a school team.

- Proposed follow-up procedures were very variable. At the time of the survey, while the projects were in process, plans for follow-up had not yet been implemented. Of the 28 centers, 11 had made some arrangements for continued observation of the children after the projects terminated. All the programs planned to transmit medical evaluations to the schools the children would attend in the fall.

Cooperative State-Local Study

The health appraisal form developed by the Bureau of Maternal and Child Health was used in

TABLE 1. — *Selected Demographic Characteristics of Children Examined Under Project Head Start (Per Cent)*

| | Number of Children Examined | | |
|--|-------------------------------|-------|-------|
| | Total | Rural | Urban |
| | 1,135 | 444 | 691 |
| | <i>Per Cent of Each Group</i> | | |
| Age | | | |
| Under 4 years | 1.5 | 0.7 | 2.0 |
| 4 to 5 years | 46.5 | 33.8 | 54.7 |
| 5 to 5½ years | 35.2 | 38.7 | 32.9 |
| 5½ and older | 15.8 | 25.9 | 9.3 |
| Not reported | 1.1 | 0.9 | 1.2 |
| Race | | | |
| White | 43.8 | 76.8 | 27.5 |
| Anglo | 17.7 | 27.5 | 11.4 |
| Mexican | 26.1 | 49.3 | 11.1 |
| Negro | 37.1 | 12.6 | 52.8 |
| Other | 11.7 | 2.7 | 17.5 |
| Not reported | 7.4 | 7.9 | 7.1 |
| Father's Occupation | | | |
| Professional, managerial, sales | 8.5 | 2.7 | 12.2 |
| Craftsmen, foreman, operatives | 27.8 | 15.8 | 35.6 |
| Private household workers, service workers | 11.4 | 6.3 | 14.6 |
| Laborers, farm or other | 27.2 | 49.3 | 13.0 |
| Not reported, none or unable to code | 25.1 | 25.9 | 24.6 |
| Education of Mother | | | |
| Grade School | 25.7 | 40.1 | 16.5 |
| High School | 53.4 | 39.4 | 62.4 |
| College | 8.9 | 3.2 | 12.6 |
| Not reported | 12.0 | 17.3 | 4.5 |
| Welfare* | | | |
| All groups | 36.5 | 47.1 | 29.7 |
| White Anglo | 35.3 | 42.6 | 24.1 |
| White Mexican | 42.6 | 52.1 | 15.6 |
| Negro | 42.0 | 58.9 | 39.5 |
| Other and not reported | 18.4 | 21.3 | 17.6 |

*Indicates families on welfare at time of examination and some with history of having been on welfare. Probably excludes some children with history of welfare, not currently receiving assistance.

28 Head Start Centers in five counties chosen to represent rural and urban populations and on the basis of their willingness to cooperate with this evaluation. All children receiving an examination at each center were included. The study embraced 1,135 children (Table 1).

All medical examinations were performed by or under the direct supervision of pediatricians. A State Health Department team performed examinations in two counties. Dental examinations were performed by dentists at Head Start Centers and in private offices, or by nurses and physicians as a regular part of the medical examinations. Developmental testing was done by nurses, medical students and, in a few cases, physicians. The medical history was obtained from parents by nurses, teachers or physicians, usually when the child was brought for physical examination.

The examining physicians categorized medical and dental conditions as referable or nonreferable and indicated whether or not each condition was currently under care. The physicians were also asked to provide a guide for the urgency of securing follow-up services by classifying each condition as "major" or "minor." No criterion for this classification were used except the judgment of the individual physician. Dental caries, if present, were categorized as "mild" or "severe."

Five hundred and eighty-two children (51.3 per cent of those examined) had 774 referable conditions, an average of 1.3 per child. The most common condition listed was dental caries (Table 2). In only 12 per cent of cases was this dental disease said to be under care. Exclusive of dental disease, 73 per cent of the referable conditions were not under care at the time of the examinations. One-third of these referable medical conditions was considered major. A large number of possible

problems were identified by screening tests (Table 3).

Follow-up of Selected Conditions

Whether those children who had been identified as needing care or further evaluation had actually received the necessary attention was ascertained four months after the medical examinations by distributing questionnaires to the participating Head Start projects. The questionnaires listed each child and his conditions. Information was requested concerning the following conditions: Major referable medical problems; severe dental caries; low hemoglobin; positive reaction to tuberculin.

Replies were received from projects that served 1,022 of the 1,135 study participants. Of these children, 283 had "major referable" medical problems—anemia, positive reaction to tuberculin test, and severe dental disease. There were 331 such conditions, more than one of them in one child in some instances.

The standard uses to assess "adequacy" of follow-up was: (1) Initial follow-up obtained, and (2) additional care not needed, or needed and obtained.

Of the 331 conditions selected for follow-up study there were 269 that were not currently under care. Only 20 per cent of the 269 conditions not under care were deemed "adequately followed." Positive, tuberculin test reaction and referable medical conditions were more likely to receive follow-up services than low hemoglobin or dental caries (Table 4). Differences among the geographic areas were great.

Methodology

There are many problems in attempting a "follow-up of medical follow-up" such as was done in this study. Although the questionnaires concerning follow-up were distributed four months after the initial examinations, the information obtained may

TABLE 2.—*Frequently Noted Referable Conditions* in Children Examined Under Project Head Start*

| | Number | Per Cent |
|--|--------|----------|
| Total Conditions | 774 | 100.0 |
| Dental caries..... | 303 | 39.1 |
| Diseases of nervous system and sense organs | 96 | 12.4 |
| Allergic, endocrine metabolic and nutritional conditions | 64 | 8.3 |
| Disease of respiratory system | 59 | 7.6 |
| Mental, psychoneurotic and personality disorders | 50 | 6.5 |
| Others | 202 | 26.1 |

*Groupings conform to the International Classification of Diseases.

TABLE 3.—*Results of Screening Tests of Children Examined Under Project Head Start*

| Test | Children Tested | Per Cent Abnormal |
|------------------|-----------------|-------------------|
| Hearing | 625 | 7.7 |
| Vision | 775 | 7.7* |
| Urinalysis | 580 | 5.3 |
| Hemoglobin | 470 | 3.2† |
| Tuberculin | 627 | 2.6 |

*Vision under 20/40, one eye.

†Hemoglobin less than 10 gm per 100 ml of blood.

TABLE 4.—*Follow-up of Selected Conditions in Children Examined Under Project Head Start*

| | Dental Caries | Low Hemoglobin | Positive Tuberculin | "Major" Medical Problem |
|---|---------------|----------------|---------------------|-------------------------|
| Total number of referable conditions..... | 174 | 16 | 17 | 124 |
| Not under care | 159 | 12 | 15 | 83 |
| Informed of need for follow-up | 111 | 7 | 12 | 49 |
| Initial follow-up obtained | 45 | 2 | 12 | 37 |

reflect the status of follow-up care which existed at the termination of the summer projects, rather than at the time the questionnaires were distributed. Furthermore, the arbitrary standard of adequate follow-up used here does not take into account children who may have obtained follow-up services without the knowledge of the Head Start personnel from whom information was obtained.

While it would have been preferable to study adequacy of follow-up by interviewing the parents of each child at a designated interval after the conclusion of the summer project, the logistics of doing so made such an undertaking impossible. The pertinent question for such field program evaluations is whether it is better to have some information than none at all. Even limited information concerning the problems of follow-up in Project Head Start may contribute to the future development of successful medical programs.

The seriousness of the illness that was discovered in these Head Start children cannot be adequately described by merely listing conditions and the frequency of occurrence. Medical conditions that are included under the same diagnostic category vary in significance. For example allergic disease may be incapacitating, or only a slight annoyance.

Although an attempt was made to circumvent the difficulties of evaluating the seriousness of the disease that was discovered by categorizing all abnormalities as either major or minor, there are many limitations to this method. Conditions that seem major to one physician may be overlooked or reported as minor by another. Variable numbers of medical problems of varying degrees of serious-

ness will be detected in the same population by different physicians, partly because of differences in the goals for and circumstances under which they perform examinations, as well as individual differences.³

Discussion

Over 310,000 California families have incomes at or below the Aid for Dependent Children criteria for need.⁶ During July 1965, almost 90,000 children, four to six years of age, were welfare recipients in California. Although the criteria for approval of Head Start projects required that 85 per cent of participating children be from families with low incomes,* because of pressures of time and the decentralized structure of program development, it is unlikely that these standards were uniformly applied. More than 35 per cent of the parents in this study came from occupation groups not usually associated with poverty.

The extent to which the children evaluated in this study reflect the health of California's poor is not clear. By some standards, their health care was better than that of the more affluent. The mothers of the children in the study reported earlier prenatal care and less frequent history of county hospital delivery than large segments of California's documented poor^{1,7} (Table 5). Although adequacy of immunization ordinarily decreases with increasing age, the immunization status of the four- to six-year-old children in this study was better than that of younger California children from families with income less than \$3,000 reported elsewhere.^{5,11}

It is possible that the families whose children participated in these programs were not those who most needed the services, and that they were self-selected by their aggressiveness and social mobility and by their ability to use the opportunity that Head Start offered. It is also possible that the most seriously impoverished communities lacked the leadership and skill required to develop Head Start projects.

Many of the children studied were observed to

TABLE 5.—*Comparative Indices of Past Medical Care Among Children of Three Categories of Low Income Families in California (Source: California Department of Public Health Birth Records)*

| Group | Mother with Late or No Prenatal Care | County Hospital Birth |
|---------------------------------|--------------------------------------|-----------------------|
| Head Start Study Children | 11.3 | 44.8* |
| California Negroes | 23.9 | 51.4 |
| California Farm Laborers | 33.9 | 51.2 |

*Head Start Study Children born in California.

*Limits of eligibility for a family of four was set at \$3,000 and for a family of eight at \$5,000.

have untreated medical problems which were considered "major" by the examining physicians. The impact of this untreated illness is difficult to interpret; but, considering only the subjective judgments of the examining physicians, one-third of all referable medical conditions were described as "major." In general, "major" referred to conditions like advanced phimosis with obstruction of the urinary stream or a heart murmur requiring thorough evaluation, rather than flagrant undiagnosed heart disease or previously untreated congenital dislocation of the hip.

It seems difficult to separate the failure of the Head Start projects to have accomplished more than just identification of conditions not under care—80 per cent failure—from the rapidity with which the projects developed. There was little time to plan for arranging medical follow-up, and there was no assignment of continued responsibility for the children after the summer program ended. Often there was inadequate communication between the sponsoring schools and health departments. Even in programs where the health department staff were participants in the project activities, the responsibility they assumed was variable. In some projects, it was the receipt of the State follow-up survey forms that initiated the follow-up activity.

Failure of parents to assume responsibility for securing care also contributed to the deficiencies of follow-up. Replies to the follow-up questionnaires indicated that at least two-thirds of the families about whom information was requested had been informed of the presence of a problem by the project personnel. Some families had made appointments for medical and dental attention but were known not to have followed through. Others had completed the first appointment but did not obtain needed additional care. Lack of finances for care was infrequently mentioned as a deterrent to care. Some families did not think the condition serious and felt that care was not necessary or that the child would "grow out" of the ailment. Some children had been seen by a physician just before the Project Head Start examination and were pronounced "normal" or "well," so that the parents would not believe or accept the present referral for care. In no case did the returned questionnaires indicate that resources for care were not available to diagnose or treat the specific condition.

Clearly, the difficulties that these children had in getting the care they needed are not confined

to the Head Start Project. Review of their experience with well-child care indicated that, although 85 per cent of them had received well-child services, only 68 per cent had been vaccinated and only 62 per cent had adequate DPT immunization.

Conclusion

Head Start provides a unique opportunity to evaluate carefully the health of preschool children from low income families at a time when they are not acutely ill. For the discovery of health problems that have previously been overlooked or accepted, the advantage of an organizational structure that permits the examination of "well" children is very great.⁴ Although a great deal of uncared-for illness of varying severity was noted in this study, there was little success in getting the problems under care. The following are suggestions for improving the health components of Head Start projects:

Planning and Evaluation

- Representatives of local medical societies and health departments should participate in the planning of the medical component of Project Head Start.
- Procedures should be established for review of the medical program while the project is in operation and again after the summer is over.

Examination Procedures

- Every effort should be made to have the screening examinations of Head Start children done by physicians and dentists who will have continuing responsibility for the care of the children.
- Medical examinations should be conducted near the outset of the Head Start Project so that the initiation of referral can be begun while the children are attending the program sessions and there is easy access to families, as well as maximum parent motivation.
- Parents should be present during the medical examination. Pre-recorded histories will facilitate communication.

Follow-Up

- Participating physicians and dentists should focus the attention of the Head Start Project staff on those children for whom special efforts to secure full and adequate follow-up care must be made.

- The process of guiding these families to the health services they need should be the definite responsibility of specific project personnel, preferably public health nurses.

- Some members of the Head Start staff or local health department personnel should assume continuing responsibility for follow-up *after* the summer project has concluded.

Participation of the Poor

- Special attention should be given to employing poor people in the projects, especially for recruitment of needy children, and to facilitate follow-up and carry out other project responsibilities related to health services. The effectiveness of paid "health aides" has been demonstrated in California in farm labor communities.⁸

- Health education activities for parents would be an important addition to these projects and should be part of an over-all program of parent participation.

- Selection of children would be improved by the use of public health nurses, who are familiar with the target community and experienced in working with disadvantaged families in their homes, to contact families.

Improvement in the medical services for Project Head Start may not be easily attained. Preliminary information from a 1966 Survey of Head Start Projects indicates that many of the practices and problems described in this study persisted during the second summer of operation.²

Despite implementation of the recommendations presented here, with adequate financial support for health services, there will continue to be severe limitations on the efficacy of short-term Head Start Projects. There will remain the difficulty of developing communication with, and access to, otherwise busy practicing physicians so that satisfactory arrangements for medical evaluation and care can be made. This is particularly true for health problems that require long-range planning and prolonged treatment.

In contrast to full-time project employees or teachers, who are employed by Project Head Start during summer vacations, physicians have a continuous responsibility to the patients who constitute their private practice. For physicians to make an effective community contribution by their work in the Head Start program, project administrators must make the organization of medical services a

high priority—certainly not an afterthought. On the part of the medical community, delegation of responsibility by county medical societies for liaison with Project Head Start to a particular individual would undoubtedly improve coordination and subsequent care.

The ways in which family centered preschool education programs can be used for providing high quality medical services to disadvantaged children need careful exploration.¹⁰ These programs make such children, who are often characterized as "hard to reach," available to physicians for counseling, diagnosis and treatment in a situation structured to maximize trust and mutual understanding.

Private pediatric care is preferable to impersonal public medical care but is ordinarily more available in middle class neighborhoods than the urban ghettos and rural slums that are served by Project Head Start. Development of techniques that improve the medical services provided for children served by these projects is an obvious challenge to the ingenuity of physicians and public health personnel. Consideration of new uses of paramedical personnel and innovations in the use of screening tests for identifying organic and emotional health problems seem especially to require attention, as do simpler matters such as appointment hours and arrangements for transportation to medical services.

REFERENCES

1. California State Department of Public Health: Birth Records, 1961.
2. Dyar, Robert, Division of Research, California State Department of Public Health: Personal communication.
3. Eisner, V., Goodlett, C. B., Driver, M.: Health of enrollees in neighborhood youth corps, *Ped.*, 38:40-43, 1966.
4. Gilbert, A., Schloesser, P.: Health needs of children of migrant workers in a Kansas day care program, *Public Health Reports*, 78:989-993, 1963.
5. Health Supervision of Young Children in California, California State Department of Public Health, Berkeley, 1960.
6. Kassenbaum, Gene G., Hopkins, Carl E., Katz, Alfred H., and Roemer, M. I.: An expanded California program of medical care for the poor, California State Department of Social Welfare, Sacramento, 1965.
7. Perinatal Mortality and Survival, California 1949-1959, California State Department of Public Health, Berkeley, 1963.
8. Potts, D., Miller, C. W.: The community health aide, *Nursing Outlook*, 12:33-36, 1964.
9. Richmond, J.: Communities in action, Presented at Annual Meeting of American Academy of Pediatrics, Chicago, October 1965.
10. Siegel, Earl: Health and day care for children of migrant workers, *Public Health Reports*, 79:847-852, 1964.
11. The 1964 Immunization Survey, Los Angeles County Health Department, 1965.